DOCUMENT RESUME

ED 339 598 SE 052 429

AUTHOR Phillips, Elizabeth; And Others
TITLE Patterns and Functions. Curriculum and Evaluation Standards for School Mathematics Addenda Series, Grades 5-8.
INSTITUTION National Council of Teachers of Mathematics, Inc., Reston, Va.
REPORT NO ISBN-0-87353-324-0
PUB DATE 91
NOTE 72p.; For other titles in this series, see SE 052 560, SE 052 588-589, SE 052 682, SE 052 735, and SE 052 750. For the document on which this series is founded, see ED 304 336.
AVAILABLE FROM National Council of Teachers of Mathematics, Inc., 1906 Association Drive, Reston, VA 22091 ($13.00; 20% discount on orders by members and bookstores or orders of 10 or more copies).
PUB TYPE Guides - Classroom Use - Teaching Guides (For Teacher) (052)

EDRS PRICE Document Not Available from EDRS.
DESCRIPTORS Curriculum Development; Curriculum Enrichment; *Discovery Learning; Elementary School Mathematics; Enrichment Activities; Geometric Concepts; Intermediate Grades; Junior High Schools; *Learning Activities; Manipulative Materials; Mathematical Enrichment; Mathematics Curriculum; Mathematics Education; *Mathematics Instruction; Measurement; Number Concepts; *Pattern Recognition; *Problem Solving; Rational Numbers; Teaching Guides; Teaching Methods
IDENTIFIERS Exponential Growth; Exponents (Mathematics); Graphing (Mathematics); *NCTM Curriculum and Evaluation Standards; Number Theory; *Patterns (Mathematics); Patterns In Arithmetic

ABSTRACT

The "Curriculum and Evaluation Standards for School Mathematics" (1989) provides a vision and a framework for revising and strengthening the K-12 mathematics curriculum in North American schools and for evaluating both the mathematics curriculum and students' progress. The document not only addresses what mathematics students should learn but also how they should learn it. When completed it is expected that the Addenda Series will consist of 22 supporting books designed to interpret and illustrate how the vision could be translated into classroom practices. Targeted at mathematics instruction in grades K-6, 5-8, and 9-12, the themes of problem solving, reasoning, communication, and connections are woven throughout the materials, as is the view of assessment as a means of guiding instruction. Activities have been field tested by teachers to ensure that they reflect the realities of today's classrooms. Building on the experiences of the elementary grades, the "Patterns in Functions" booklet in the Grades 5-8 series provides examples of how patterns can be used to develop or deepen understandings of important concepts in exponents, number theory, rational numbers, measurement, geometry, probability, and functions. Each of the guide's five sections starts with problems to explore, (called investigations), in which patterns can be used to analyze and solve

the problem. This method of using patterns to investigate problem situations allows students to think before and beyond the answer: to see patterns, to generalize, to extend, to connect, and to evaluate. The five sections are: (1) Exponents and Growth Patterns; (2) Number Theory and Counting Patterns; (3) Rational Number Patterns; (4) Measurement and Geometric Patterns; and (5) Graphs and Functions as Patterns. (MDH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****